

# Conversion of Decimals, Fractions, and Percent

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Printed: March 27, 2013

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## CONCEPT

## 1

# Conversion of Decimals, Fractions, and Percent

Here you'll learn how to change a decimal to a percent, a percent to a decimal, a fraction to a percent, and a percent to a fraction.

Suppose you're taking the written test for your driver's license and you get  $\frac{4}{5}$  of the questions correct. The proctor of the test said that you needed to get at least 70% of the questions right in order to pass. Do you think you passed the test for your driver's license? Do you know how to convert  $\frac{4}{5}$  to a percent? What if you had to convert a decimal to a percent, a percent to a decimal, or a percent to a fraction? Could you do it? After completing this Concept, you'll be able to!

## Percent Problems

A **percent** is a ratio whose denominator is 100. Before we can use percents to solve problems, let's review how to convert percents to decimals and fractions and vice versa.

To convert a decimal to a percent, multiply the decimal by 100.

### Example A

Convert 0.3786 to a percent.

$$0.3786 \times 100 = 37.86\%$$

To convert a percentage to a decimal, divide the percentage by 100.

### Example B

Convert 98.6% into a decimal.

$$98.6 \div 100 = 0.986$$

When converting fractions to percents, we can substitute  $\frac{x}{100}$  for  $x\%$ , where  $x$  is the unknown.

### Example C

Express  $\frac{3}{5}$  as a percent.

We start by representing the unknown as  $x\%$  or  $\frac{x}{100}$ .

$$\left(\frac{3}{5}\right) = \frac{x}{100}$$

Cross multiply.

$$5x = 100 \cdot 3$$

$$5x = 300$$

$$x = \frac{300}{5} = 60$$

Divide both sides by 5 to solve for  $x$ .

$$\left(\frac{3}{5}\right) = 60\%$$

## Guided Practice

Express 75% as a reduced fraction.

**Solution:**

75% means  $\frac{75}{100}$ . We just need to reduce it:

$$\frac{75}{100} = \frac{3 \times 25}{4 \times 25} = \frac{3}{4}.$$

## Practice

Sample explanations for some of the practice exercises below are available by viewing the following video. Note that there is not always a match between the number of the practice exercise in the video and the number of the practice exercise listed in the following exercise set. However, the practice exercise is the same in both. [CK-12 Basic Algebra: Percent Problems](#) (14:15)



## MEDIA

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Express the following decimals as percents.

1. 0.011
2. 0.001
3. 0.91
4. 1.75
5. 20

Express the following fractions as a percent (round to two decimal places when necessary).

6.  $\frac{1}{6}$
7.  $\frac{5}{24}$
8.  $\frac{6}{7}$
9.  $\frac{11}{7}$
10.  $\frac{13}{97}$

Express the following percentages as reduced fractions.

11. 11%
12. 65%
13. 16%
14. 12.5%
15. 87.5%